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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/538,769

01/04/2006

Philip Nigel Bartlett

P-7916-US

3731

49443 7590 10/27/2010
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EXAMINER

MENDEZ, ZULMARIAM

ART UNIT

PAPER NUMBER

1723

MAIL DATE

DELIVERY MODE

10/27/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/538,769	Applicant(s) BARTLETT ET AL.	
	Examiner ZULMARIAM MENDEZ	Art Unit 1723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,7-12 and 15-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,7-12 and 15-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>05/30/2010; 07/12/2010</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 22, 2009 has been entered. For examination purposes, the Examiner has considered the set of claims filed along with a Supplemental Amendment on April 21, 2010.

Claim Objections

2. Claim 18 is objected to because of the following informalities: claim 18 currently depends upon cancelled claim 6. For examination purposes, claim 18 has been considered to be dependent upon claim 1. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3, 4, 7-12 and 15-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Bartlett (WO 99/00536).

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With regard to claims 1, 3, 4, 11, 15, 16 and 22, Bartlett discloses porous films and membranes to be used as anode (positive electrode) or cathode (negative electrode) and solid electrolytes in electrochemical devices and sensors (page 3, lines 3-5; page 16, lines 1-6) wherein said positive electrode comprises a mesoporous structure having a periodic arrangement of substantially uniformly sized pores (page 7, lines 5-7) with a diameter in the order of 10^{-9} to 10^{-8} m² (1 to 10 nm; page 10, lines 24-26), wherein the mesoporous structure of the positive electrode is a metal, such as nickel or nickel alloys (page 4, lines 15-18), a metal oxide or hydroxide (page 4, lines 13-23; page 12, lines 17-31) wherein said metal oxide, such as Nickel oxide (page 5, lines 9-13; page 12, lines 20-32) forms a surface layer over said metal and extending over at least the pore surfaces (page 4, lines 22-23; page 5, lines 18-20) and wherein said negative electrode comprises a material such as carbon, nano-particulate carbon, cadmium or palladium (page 12, lines 20-32, page 10, lines 1-2).

With regard to claims 7 and 19, Bartlett teaches wherein the mesoporous structure has a pore number density of about 4×10^{11} to 3×10^{13} pores per cm² (page 10, lines 28-30).

With regard to claims 8 and 20-21, Bartlett teaches wherein at least 75% of the pores in said mesoporous structure have pore diameters within 30%, of the average pore diameter, more preferably within 10%, and most preferably 5% of average pore diameter (page 11, lines 1-4).

With regard to claims 9 and 10, Bartlett discloses wherein the mesoporous structure has a hexagonal arrangement of pores that are continuous through the

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thickness of the electrode (page 6, lines 29-31; se figure 1) having a pore periodicity of 60 Å (6nm).

With regard to claim 12, Bartlett teaches wherein said mesoporous structure is a film having a thickness in the range of about 100 Å to about 20 micrometers (page 9, lines 5-7).

With regard to claim 16, Bartlett discloses wherein said negative electrode comprises a material such as carbon, nanoparticulate carbon, cadmium or palladium (page 12, lines 20-32; page 10, lines 1-2).

With regard to claim 17, Bartlett further teaches wherein said cell is constructed to function as a battery (page 16, lines 1-14).

With regard to claim 18, Bartlett further discloses wherein the mesoporous structure has a pore diameter in the range of about 1 to 10 nm (page 10, lines 24-26).

Response to Arguments

Claim Objections

5. The objection previously made to claims 1 and 11 has been withdrawn in view to applicant's amendments.

Remarks

6. Applicant's arguments filed on December 22, 2010 have been fully considered but they are not persuasive. The applicant argues the following:

a. Bartlett fails to teach wherein the claimed materials could be used as electrode materials in cells of portable electronic devices. In response, the

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Examiner respectfully disagrees. The porous films having a substantially regular structure and uniform pore size taught by Bartlett show improved properties for use in many applications such as batteries (portable device), fuel cells, electrochemical capacitors and sensors among others (page 1, lines 5-30).

b. Bartlett mentions a wide range of possible applications in very general terms but does not mention power density or energy density. However, the examiner does not find this argument persuasive because the applicant states that the present invention is concerned with meeting these requirements by using a positive electrode in a cell with the structure and characteristics recited in the claims. Therefore, since the teachings of Bartlett meet all of the structural claimed limitations, one having ordinary skill in the art would have also expected the device of Bartlett to provide the high power density and energy density that is required by a portable electronic device, i.e. a battery as disclosed by Bartlett.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ZULMARIAM MENDEZ whose telephone number is (571)272-9805. The examiner can normally be reached on Tuesday-Friday from 9am to 7pm.

8. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexa Neckel can be reached on 571-272-1446. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Harry D Wilkins, III/
Primary Examiner, Art Unit 1723

/Z. M./
Examiner, Art Unit 1723